

Introduction

Today, more than 450 regulatory measures promote renewable energy in the EU.¹ A recent study commissioned by the European Commission (hereafter: Commission) estimates the annual volume of subsidies for renewable energy in the EU at 41 billion EUR.² In Germany alone, the volume of subsidies under the *Erneuerbare-Energien-Gesetz* (Act on Renewable Energy) for the year 2015 is estimated at more than 21 billion EUR.³

The justification for promoting the use of renewable energy changed over time. In the 1970s, when that policy goal surfaced for the first time, the aim was to reduce oil dependency by promoting the use of indigenous energy sources, including renewable energy, as a reaction to the 1973 oil crisis.⁴ In the 1980s, renewable energy was seen as one possible answer to acid rain and transboundary air pollution, which were caused by the increased use of coal as an energy source following

¹ International Energy Agency (IEA) and International Renewable Energy Agency (IRENA) Joint Policies and Measures Database, www.iea.org/policiesandmeasures/ renewableenergy/, last accessed November 23, 2014.

 $^{^{2}}$ Ecofys 2014, p. 51, for the year 2012.

³ Source: www.netztransparenz.de/de/file/20141015-Veroeffentlichung-EEG-Umlage-2015. pdf, last accessed November 23, 2014.

⁴ See, for measures taken at EU level, Council Decision 75/510/EEC of August 22, 1975, adopting an energy research and development programme, OJ 1975, L 231/1; Council Decision of August 25, 1975, amending Decision No 73/176/EEC adopting a programme of research in new technologies for the European Economic Community (EEC) (use of solar energy and recycling of raw materials), OJ 1975, L 231/25; and Council Regulation (EEC) No 1302/78 of June 12, 1978, on the granting of financial support for projects to exploit alternative energy sources, OJ 1978, L 158/3. Those measures have been supplemented in certain Member States by national programmes, see for an overview Beurskens 2013, pp. 13–32.



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the oil crisis.⁵ In the 1990s, climate change dominated the discourse. The 1992 Earth summit in Rio de Janeiro elaborated the United Nation Framework Convention on Climate Change (UNFCCC), and parties to that convention adopted the Kyoto Protocol in 1997. In that context, the EU accepted to reduce its greenhouse gas emissions. The promotion of renewable energy was presented as an important policy tool for complying with that international obligation.⁶ For the first time, the Union set targets for the share of renewable energy in its overall energy consumption. The target was 8 percent for 2005⁷ and 12 percent by 2010.⁸ Since the beginning of the century, climate change has moved to the center stage of world politics and energy security has come back to dominate energy policy in the aftermath of the Russia-Ukraine gas disputes and the resulting supply interruptions in 2006 and 2009 and the Russia-Ukraine crisis of 2014.9 At the same time, the costs for the promotion of renewable energy, which are largely borne by energy consumers, have been strongly criticized by business, in particular because energy prices in the USA have dropped in recent years as a result of the increased use of shale gas there.

⁵ 3rd Environmental Action Programme for the period 1982–1987, OJ 1983, C 46/1, point 21; Communication from the Commission a Community orientation to develop new and renewable energy sources, endorsed by Council Resolution of November 26, 1986, OJ 1986, C 316/1 and Parliament resolution of July 8, 1986, OJ 1986, C 227/29; Regulation (EEC) No 3301/86 instituting a Community programme for the development of certain less-favored regions of the Community by exploiting endogenous energy potential (Valoren programme), OJ 1986, L 305/6; Council recommendation on developing the exploitation of renewable energy sources in the Community, OJ 1987, C 279/6 (Commission proposal) and OJ 1988, L 160/46 (text as adopted by the Council).

⁶ Council Regulation (EEC) No 2008/90 of 29 June 1990 concerning the promotion of energy technology in Europe (THERMIE programme), OJ 1990, L 185/1, recital 4; Council decision 93/500/EEC concerning the promotion of renewable energy sources in the Community (ALTENER programme), OJ 1992, C 179/4 (Commission proposal), OJ 1993, L 235/41 (text adopted by the Council), Article 1; Green Paper 'Energy for the Future: Renewable Sources of Energy', COM (96) 576 of 20.11.1996; White Paper 'Energy for the Future: Renewable Sources of Energy', COM (97) 599 of 26.11.1997. The strategy and the action plan proposed in the White Paper where accepted by Council Resolution of 8.6.1998 on renewable sources of energy, OJ C 198, 24.6.1998, p. 1, and Parliament Resolution A4-0207/98 of May 26, 1998, on electricity from renewable energy sources, not published in the OJ.

Ouncil decision 93/500/EEC concerning the promotion of renewable energy sources in the Community (ALTENER programme), OJ 1992, C 179/4 (Commission proposal), OJ 1993, L 235/41 (text adopted by the Council), Article 1 and Annex I.

8 White Paper 'Energy for the Future: Renewable Sources of Energy', COM (97) 599 of 26.11.1997.

 $^{9}\,$ Farah and Rossi 2011, pp. 239 to 242, explore the interplay between those two objectives.



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In addition to the three policy objectives (reduction of air pollution; reduction of greenhouse gases; increase of energy security), politicians and academics claim additional benefits from promoting renewable energy. First, renewable energy is usually exploited in a decentralized manner in small installations. Conventional energy, on the contrary, tends to be used in big, centralized power stations. Therefore, the use of renewable energy leads to the development of a more decentralized energy system and creates local employment throughout the Union. Second, and despite the rise of production in particular in China, companies located in Member States that have spearheaded the promotion of renewable energy (Denmark, Germany, Spain) have historically been and are still among the world leaders in renewable energy technology. Third, the promotion of renewable electricity has increased competition in electricity markets. Owners of renewable power plants tend to be new entrants into the electricity market, rather than the incumbent operators. As a result, market power of incumbent operators, which due to their former monopoly often dominated markets, has reduced significantly in some Member States.

The importance of the promotion of the use of energy from renewable sources has been codified in the Treaty of Lisbon, which defines the (shared) competence of the Union for energy policy in Article 194 of the Treaty on Functioning of the European Union (hereafter: TFEU) in the following manner (our emphasis):

In the context of the establishment and functioning of the internal market and with regard for the need to preserve and improve the environment, Union policy on energy shall aim, in a spirit of solidarity between Member States, to:

- (a) ensure the functioning of the energy market;
- (b) ensure security of energy supply in the Union;
- (c) *promote* energy efficiency and energy saving and the development of new and renewable forms of energy; and
- (d) promote the interconnection of energy networks.

The EU promotes renewable energy on three different tracks: it provides Union funding for research and development from the Union's research budget¹⁰; it provides Union funding for deployment of renewable energy

¹⁰ See the research and development programmes of the 1970s, *supra* footnote 4; the THERMIE and the JOULE programmes (OJ 1990, L 185/1; OJ 1991, L 257/37; OJ 1994, L 334/87); the ALTENER and the ALTENER II programmes (OJ 1993, L 235/41; OJ L 159, 3.6.1998, p. 53); and the Intelligent Energy Europe programme (OJ 2006, L 176/29; OJ 2004, L 138/12; OJ 2006, L 310/15). For the funding period 2014 until 2020, the Intelligent



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in less-favored regions from the Union's regional development budget; and it first encouraged and nowadays obliges Member States to put in place support schemes for renewable energy at the national level.

The present book deals exclusively with support schemes for renewable electricity. The reason for that choice is as follows: Most renewable technologies are today mature, so that those support schemes are the key policy measure and the focus of the political debate. The production of renewable electricity constitutes today the lion share of the use of renewable energy in the EU, compared, for example, to the use of renewable energy sources for heating and cooling or transportation. Furthermore, support schemes for electricity are the most mature, and experience gained here is often used for the other fields.

The first piece of Union law dealing with support schemes is a 1988 Council recommendation on developing the exploitation of renewable energy sources in the Community. 11 Today, EU legislation on support schemes assigns to each Member State a binding national target based on electricity consumption. 12 Each Member State is free to design its own concrete regulatory policies to meet that target. As a result, EU renewable electricity law and policy consists today of twenty-eight national support systems, which are in some Member States either complemented by or even subdivided into regional support systems. Those support systems can be broadly divided into regulation of prices and regulation of quantities. Eligibility for support is limited under all systems to renewable electricity that is produced in the Member State or, in case of support schemes put in place by intra-State entities, the region in question. That geographical limitation of support schemes is foreseen as a possibility, but not an obligation in the EU legislation. The result is a fragmentation of the market for renewable electricity. Investment decisions are not only based on production costs (which in turn depend on geographical factors such as sun and wind exposure or availability of biomass), but also on the attractiveness of the applicable support scheme (Part I). The Commission, in its role as guardian of the treaties, has however three different tools to protect the integrity of the internal market at least to a certain extent. Those are State aid control and the

Energy Europe programme has been integrated into the Union's Research & Innovation Programme Horizon 2020 (OJ 2013, L 347/104).

¹¹ OJ 1987, C 279/6 (Commission proposal) and OJ 1988, L 160/46 (text as adopted by the Council).

 $^{^{12}}$ Directive 2009/28/EC on the promotion of the use of energy from renewable sources, OJ 2009, L 140/16.



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enforcement of the provisions on free movement of goods and on the prohibition of discriminatory taxation and internal customs duties. Furthermore, the design of national support schemes has also come under scrutiny in the World Trade Organization (WTO) dispute settlement system and in investor-State disputes under the Energy Charter Treaty and bilateral investment treaties (Part II). When defining national targets, the EU legislator did not only take into consideration cost efficiency (which would have meant to assign the highest targets to those Member States where production costs – due to geographic factors – were lowest), but also distributional equity (meaning that more wealthy countries were assigned higher targets). That creates potential for reducing the costs of regulatory policies through trade between Member States. Two attempts by the Commission, in 1999 and in 2008, to enable such trade and create an internal market for renewable electricity have failed. Wealthy Member States had little appetite for reducing national compliance costs through trade. In 2014, the Court of Justice (hereafter: the Court) had to rule on the legality of the restriction of support schemes of domestic production, and upheld, under certain conditions, that possibility. At the same time, the Commission used its regulatory powers under EU State aid law to achieve a certain degree of market opening. In its Energy Union Package of 2015, the Commission announced a proposal for a new legislative framework for renewable electricity for the period 2020-2030, when the targets set in the current legislation expire, for the years 2016–2017. Different options for replacing national targets by a common market are on the table. The book concludes with a look over the Atlantic. The debate on the design of support systems and the relationship between the federal/Union and State/Member State level has many interesting parallels on both its sides. On that basis, it seems possible to envisage for the future a transatlantic market for renewable electricity (Part III).





Part I

Twenty-eight national support schemes in regulatory competition





1 Regulation of renewable electricity in the internal electricity market (Still) a preserve of Member States

This book examines regulatory measures promoting renewable electricity in the EU. That raises the question: What precisely do I mean by "regulatory measure" or "regulation"? To answer that question, I start with a look over the Atlantic, as the prevalent mode of regulation in electricity markets, that is, statutory regulation by independent agencies, originated there (Chapter 1). Regulation of electricity markets in the EU in general (Chapter 2) is today in stark contrast with regulation of renewable electricity (Chapter 3): For the former, the internal market is (at least legally) a reality since 2007. The latter remains by and large a preserve of Member States.

1.1 The concept of regulation in the USA and the EU

1.1.1 Definition of regulation

The term "regulation" is used very frequently in law, economics and political science, but lacks a precise definition. When using the terms "regulatory" and "regulation", it is therefore important to first explain clearly what they refer to. Breyer (1982, p. 7) observes that "efforts to distinguish intellectually ... between governmental 'regulatory' action and the entire realm of governmental activity ... are difficult and the subject of controversy."

¹ Den Hertog 2000, p. 223. To complicate things further, there is considerable debate as to how to translate it into national legal systems, see Grand and Veyrenc 2011, p. 159 and following, and Frison-Roche 2004 for France and Kneihs 2005; Masing 2003; Ruffert 1999 for Germany. Del Guayo 2008 explains in detail that problems go beyond translation, as translation problems in reality reflect diverging legal cultures of regulation.



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Kahn (1970) suggests that there are four principle components of regulation: control of entry; price fixing; prescription of quality and conditions of service; and the imposition of an obligation to serve all applicants under reasonable conditions. Posner (1974) defines regulation as any form of government intervention in the market, comprising in particular "taxes and subsidies of all sorts as well as ... explicit legislative and administrative controls over rates, entry and other facets of economic activity." Those two academic (and economic) definitions are based on content.

Both the American and the European legal system have definitions of regulation based on form. Regulation is a legal act that is issued by the executive branch, based on a mandate that the legislator has set in a legislative act.

In the American legal system, "regulation" is used as a synonym for "rule," which is defined in paragraph 551 of the Administrative Procedure Act as follows:

Rule means the whole or a part of an agency statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy or describing the organization, procedure, or practice requirements of an agency and includes the approval or prescription for the future of rates, wages, corporate or financial structures or reorganizations thereof, prices, facilities, appliances, services or allowances therefor or of valuations, costs, or accounting, or practices bearing on any of the foregoing.

In short, a regulation is any act by which an agency implements an act adopted by Congress, based on the mandate given by Congress in the act in question. "Agency" in turn is defined in the same paragraph of the Administrative Procedure Act as follows: "Agency' means each authority of the Government of the United States, whether or not it is within or subject to review by another agency, but does not include ... the Congress ... [and] the courts of the United States." Agencies are often set up in the USA by the act that contains also the mandate for regulation. They can either be independent from the departments of the federal government (e.g., the Environment Protection Agency) or part of a department (e.g., the Food and Drug Administration, which is part of the Department of Health and Human Services).

In the EU, the draft Treaty establishing a Constitution for Europe contained a legal definition of "regulation" in its Article I-33 paragraph 1: "A European regulation shall be a non-legislative act of general application for the implementation of legislative acts and of certain provisions of the Constitution." Articles I-35, I-36, I-37 and I-40 stipulate that